# Product Information



# 4-hydroxy Hexenal-d<sub>3</sub>

Item No. 10007657

CAS Registry No.:	148706-05-2
Formal Name:	(±)-4-hydroxy-2E-hexenal-6,6,6-d <sub>3</sub>
Synonym:	4-HHE-d <sub>3</sub>
MF:	$C_6H_7D_3O_2$
FW:	117.2
Chemical Purity:	≥98% 4-hydroxy Hexenal
Deuterium	
Incorporation:	$\geq$ 99% deuterated forms (d <sub>1</sub> -d <sub>3</sub> ); $\leq$ 1% d <sub>0</sub>
Stability:	≥1 year at -80°C
Supplied as:	A solution in methyl acetate
UV/Vis.:	$\lambda_{max}$ : 221 nm
Chemical Purity: Deuterium Incorporation: Stability: Supplied as: UV/Vis.:	≥98% 4-hydroxy Hexenal ≥99% deuterated forms $(d_1-d_3)$ ; ≤1% $d_0$ ≥1 year at -80°C A solution in methyl acetate $\lambda_{max}$ : 221 nm



# Laboratory Procedures

4-hydroxy Hexenal-d<sub>3</sub> contains three deuterium atoms at the 6, 6, and 6 positions. It is intended for use as an internal standard for the quantification of 4-hydroxy hexenal (Item No. 32060) by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that 4-hydroxy hexenal-d<sub>3</sub> be stored as supplied at -80°C. It should be stable for at least one year.

4-hydroxy Hexenal- $d_3$  is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the 4-hydroxy hexenal-d<sub>3</sub> under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of 4-hydroxy hexenal-d<sub>3</sub> in these solvents is approximately 50 mg/ml.

4-hydroxy Hexenal- $d_3$  is used as an internal standard for the quantification of 4-hydroxy hexenal by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

### Description

4-hydroxy Hexenal is a lipid peroxidation product derived from oxidized  $\omega$ -3 fatty acids such as DHA.<sup>1,2</sup>

### References

DIAGNOSTIC OR THERAPEUTIC USE.

WARRANTY AND LIMITATION OF REMEDY

SAFETY DATA

at the time of delivery.

- 1. van Kuijk, F.J.G.M., Holte, L.L., and Dratz, E.A. 4-Hydroxyhexenal: A lipid peroxidation product derived from oxidized docosahexaenoic acid. Biochim. Biophys. Acta 1043, 116-118 (1990).
- van Kuijk, F.J.G.M., Siakotos, A.N., Fong, L.G., et al. Quantitative measurement of 4-hydroxyalkenals in oxidized 2. low-density lipoprotein by gas chromatography-mass spectrometry. Anal. Biochem. 224, 420-424 (1995).

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